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# State Water Resources Control Board

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## LG 162

### INSTALLATION AND MONITORING REQUIREMENTS FOR UNDERGROUND STORAGE TANKS INSTALLED ON OR AFTER JULY 1, 2003; ASSEMBLY BILL 2481 (STATUTES OF 2002, CHAPTER 999)

(Available electronically at <http://www.swrcb.ca.gov/ust>)

May 30, 2003

To: Local Agencies and Other Interested Persons

As you may know, Assembly Bill (AB) 2481 became effective on January 1, 2003 and includes new installation and monitoring requirements for underground storage tanks (USTs)<sup>1</sup> installed on or after July 1, 2003. The purpose of this letter is to answer some common questions that have arisen to date regarding some of these new requirements.<sup>2</sup> We have prepared a summary table of AB 2481 UST leak prevention and enforcement requirements, which is available on our website at:

[www.swrcb.ca.gov/ust](http://www.swrcb.ca.gov/ust).

#### 1. **What does “product tight” mean?**

For UST systems installed before July 1, 2003, “product tight” is defined to mean impervious to the (liquid) substance that is contained, so as to prevent seepage of the substance stored. [H&S Code §25281(o).] However, for UST systems installed on or after July 1, 2003, AB 2481 defines the term “product tight” to mean “impervious to the liquid and vapor of the substance that is contained, or is to be contained, so as to prevent seepage of the substance from the containment.” [H&S Code §25290.1(a).]

#### 2. **How can sumps and under-dispenser containment (UDC) connected to USTs installed on or after July 1, 2003 meet the product tight requirement?**

UST systems installed on or after July 1, 2003 must be designed and installed such that there are no pathways for liquids or vapors to enter the backfill. For sumps, the “product tight” requirement may be satisfied by installing and maintaining sumps which have covers or barriers that extend to grade level such that there is a vapor tight barrier between the sump containment and the backfill. For UDCs, the “product tight” requirement may be satisfied through the use of containment structures that extend to grade level such that there is a vapor tight barrier between the UDC and the backfill. Penetration (entry) fittings that are liquid

<sup>1</sup> The term “underground storage tank” means tank and piping used for the storage of a hazardous substance. [H&S Code, §25281(x)(1).] The term “underground tank system” or “tank system” means an underground storage tank, connected piping, ancillary equipment, and containment systems. [H&S Code, §25281(y).]

<sup>2</sup> This letter is intended as a working document and may be periodically updated as new information becomes available and new questions arise.



and vapor tight are also important elements of product tight sumps and UDCs. Furthermore, sumps and UDCs must be properly installed, operated, and maintained to provide protection against the entry of liquids and vapors into the backfill.

3. **Are the current component listings by independent testing organizations acceptable for USTs installed on or after July 1, 2003?**

Consistent with prior practices, owners and operators may rely on products listed by independent testing organizations to meet the “product tight” requirement. Any needed changes to components to address the “product tight” requirement would be done through revisions to the third-party standards (e.g., Underwriters Laboratories, American Petroleum Institute, American Society for Testing and Materials).

4. **For USTs installed on or after July 1, 2003, can secondary containment be open to rainfall or water intrusion?**

No. All secondary containment components must be installed to prevent water intrusion into the system by precipitation, infiltration, or surface runoff. [H&S Code, §25290.1(c)(3).] The primary function of this requirement is to keep water out of the containment areas (e.g., tanks, piping, sumps, UDC) so that, in the event of a release, the stored substance can be detected and contained until it is cleaned up. In response to the detection of water into these containment areas, the owner or operator must remove and properly dispose of such water, identify the source(s), and repair the UST system to prevent further water intrusion.

5. **Has the definition of “pipe” changed for USTs installed on or after July 1, 2003?**

Yes. Vent piping, vapor recovery piping, and fill pipes that are beneath the surface of the ground and installed in conjunction with a UST system on or after July 1, 2003 are regulated “pipe” and are subject to secondary containment requirements. [H&S Code, §25290.1(k).]

6. **Are the piping exemptions provided in H&S Code, Section 25281.5(a)(4) and (b)(1), and the secondary containment exemptions in Section 2636(a), Title 23, California Code of Regulations (CCR) applicable to USTs installed on or after July 1, 2003?**

No. The piping exemptions provided in H&S Code, Section 25281.5(a)(4) and (b)(1), are not applicable for UST systems installed on or after July 1, 2003. [H&S Code, §25290.1(k).] Additionally, the secondary containment exemptions (for vent and tank riser piping, vapor recovery piping, and safe suction piping) in Section 2636(a), Title 23, CCR are not applicable for USTs installed on or after July 1, 2003. There are no exemptions from the secondary containment requirement for USTs installed on or after July 1, 2003.

7. **What type of post-installation testing is required for USTs installed on or after July 1, 2003, and when should the testing be completed?**

The UST must be tested after installation, and before it is placed into use, using one of the following three test methods: (1) enhanced leak detection (ELD), (2) an inert gas pressure test certified by a third-party and approved by the State Water Resources Control Board (SWRCB), or (3) a test method deemed equivalent to ELD and approved by the SWRCB in regulation. [H&S Code, §25290.1(j).] As of the date of this letter, the SWRCB has not been asked to either approve an inert gas pressure test or a test equivalent to ELD. At this time,



the Enhanced Tracer Tight® test is the only approved test method that meets the ELD requirement for post-installation testing.

When the Enhanced Tracer Tight® test is used to conduct ELD, this test may be conducted with or without fuel in the UST. To conduct ELD testing with fuel, the owner or operator should first obtain approval from the local agency to have fuel delivered to the UST. Prior to approving a fuel delivery for an ELD test, the local agency may need to verify that all pertinent installation requirements have been met. A UST system should not be put into service until the facility has been issued a valid operating permit by the local agency.

If the results of post-installation testing indicate that the UST system is leaking liquid or vapor, the owner or operator must take appropriate actions to correct the leakage, and retest the system using the same approved test method until the system is no longer leaking liquid or vapor.

**8. What requirements apply to a UST installation if installation started prior to July 1, 2003, but is not completed until after July 1, 2003?**

If the tank and associated piping are not placed in the ground prior to July 1, 2003, the UST is subject to the new installation and monitoring requirements of H&S Code, Section 25290.1. [H&S Code, §25290.1.] As always, the local agency must have approved the installation plan prior to placement of the tank and associated piping in the ground.

Please note the following for a UST placed in the ground prior to July 1, 2003, following approval of the installation plan by the local agency. Such a UST is not subject to the new installation and monitoring requirements of H&S Code, Section 25290.1. However, the owner/operator of that UST system is required to perform a one-time ELD test on or before January 1, 2005, if the UST system is located within 1,000 feet of a public drinking water well. [H&S Code, §25290.1(j); H&S Code, §25292.5(a) and (b).]

**9. Does a repair or modification to a UST, NOT installed in accordance with H&S Code, Section 25290.1, subject the UST to the requirements of this section?**

No, not unless the tank is replaced. USTs only become subject to H&S Code, Section 25290.1 when the tank is replaced. Therefore, for USTs installed prior to July 1, 2003, replacement of spill containment, sumps, product piping, vapor recovery piping, or vent piping would not subject the component or the UST system to the new installation and monitoring requirements of H&S Code, Section 25290.1.

**10. In accordance with H&S Code, Section 25290.1(e), which components of USTs installed on or after July 1, 2003 must be continuously monitored using vacuum, pressure, or interstitial liquid level measurement methods?**

The interstitial space of the tank and product piping (including fill, vent, and vapor recovery piping), that are beneath the surface of the ground must be maintained under constant vacuum or pressure. Statute also requires that a breach in the primary or secondary containment be detected before the liquid or vapor of the stored substance is released to the environment. Continuous vacuum, pressure, or interstitial liquid level measurement methods



can be used to satisfy these requirements. As with all leak detection equipment used to monitor the UST system, these methods must be third-party certified and should be listed in Local Guidance (LG) Letter 113. LG 113 can be found on our website at:

[www.swrcb.ca.gov/ust/docs/lgs/avail.html](http://www.swrcb.ca.gov/ust/docs/lgs/avail.html).

It is important to note that regulated piping begins where piping exits/enters the tank and continues to the point where piping extends above the surface of the ground (e.g., at a shear valve). Statute does not provide an exemption for single-walled piping transitions contained in sumps or UDCs, or fill piping contained in sumps. The following options may be used to satisfy the requirements for piping transitions and fill piping:

- A. The entire piping length, including piping within sumps or UDCs must be double-walled and continuously monitored using vacuum, pressure, or interstitial liquid level measurement methods; **or**
- B. The interstitial space between the primary (i.e., single-walled transition pipe or fill piping) and secondary containment (i.e., sump, UDC) must be continuously monitored using vacuum, pressure, or interstitial liquid level measurement methods; **or**
- C. The single-walled transition pipe or fill piping must be contained within a double-walled sump and/or double-walled UDC that extends to the surface or a double-walled sump and/or double-walled UDC that terminates at a continuously monitored product tight lid. The secondary containment (of the sump or UDC, including penetration fittings) must be continuously monitored using vacuum, pressure, or interstitial liquid level measurement methods.

Pursuant to Section 2637(a)(6) of Title 23, CCR, portions of the UST system which are continuously monitored using vacuum, pressure, or interstitial liquid level measurement methods are exempt from periodic secondary containment testing. Therefore, periodic secondary containment testing is not required for secondary containment of tank and piping that are continuously monitored using vacuum, pressure, or interstitial liquid level measurement methods. Please note that annual certification of the leak detection equipment is still required.

**11. What components of USTs installed on or after July 1, 2003 are required to be monitored in accordance with H&S Code, Section 25290.1(d)?**

Section 25290.1 requires that the “underground storage tank system” be designed and constructed with a continuous monitoring system. Tank and product piping monitored using constant vacuum, pressure, or interstitial liquid level measurement methods satisfy this requirement through Section 25290.1(e). However, other parts of the UST system not subject to Section 25290.1(e) must satisfy the monitoring requirement in Section 25290.1(d). These components include, but are not limited to, riser piping and access points on top of the tank, which provide access to the primary containment of the tank and may be in contact with vapors of the stored product.

The requirement for sumps and UDCs to have sensors is as follows. Sumps and UDCs installed and monitored in accordance with paragraph 10.A, above, must have sensors that



are capable of detecting liquid and vapor releases from the primary containment. No sensors are required for sumps and UDCs installed and monitored in accordance with paragraph 10.B, above. Sumps and UDCs installed and monitored in accordance with paragraph 10.C, above, are only required to have sensors that are capable of detecting liquid releases.

**12. For USTs installed on or after July 1, 2003, is the annual line tightness test on pressurized piping required?**

No. For USTs installed on or after July 1, 2003, an annual line tightness test on the primary containment is not required.

If you have questions regarding this letter, please contact Ms. Laura Chaddock at (916) 341-5870, Ms. Erin Ragazzi at (916) 341-5863, or Mr. Scott Bacon at (916) 341-5873.

Sincerely,

*[Original signed by]*

Elizabeth L. Haven, Manager  
Underground Storage Tank Program

